



DECUS

PROGRAM LIBRARY

DECUS NO.	8-363
TITLE	DATOUT: A SIMPLE ROUTINE FOR PRINTING SEQUENTIAL DATA AS AN ARRAY
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SOURCE LANGUAGE	PAL III

DATOUT: A SIMPLE ROUTINE FOR PRINTING
SEQUENTIAL DATA AS AN ARRAY

DECUS Program Library Write-up

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Minimum Hardware: Basic PDP-8 with ASR-33 teletype

Storage Requirements: 69 locations

Subroutines Required: Digital's Unsigned Decimal Print DEC 8-22-U

DESCRIPTION

DATOUT enables the user to format and type on the teletype decimal integer data (single precision). Using DATOUT, sequentially stored octal numbers are converted to decimal integers (by DEC 8-22-U, required) and may be printed up to 14 per line and up to 4096 lines (with the limitation being only computer storage). Provision is made whereby line numbers may be generated and printed by DATOUT; however, if line numbers are printed, only thirteen other data may be printed per line.

/GENERAL DATA PRINT ROUTINE
 /REQUIRES DEC 8-22-U UNSIGNED DECIMAL PRINT
 /THE STARTING LOCATION OF DEC 8-22-U GOES IN IDECPRT
 /CALL JMS DATOUT
 /CALL+1 IS ADDRESS OF START OF DATA
 /CALL+2 IS NUMBER OF LINES TO PRINT
 /CALL+3: BIT 0=1 IF TRIAL # TO BE PRINTED
 / BITS 8-11 GIVE OCTAL # OF DATA PER LINE
 /RETURN TO CALL+4

0200	0000	DATOUT,	0	
0201	7300		CLA CLL	
0202	3276		DCA TRNO	/TRIAL NUMBER =0
0203	1600		TAD I DATOUT	/GET STARTING ADDRESS OF DATA
0204	3277		DCA DATGET	
0205	2200		ISZ DATOUT	/GET # OF LINES TO TYPE
0206	1600		TAD I DATOUT	
0207	7041		CIA	
0210	3300		DCA NOLINE	
0211	2200		ISZ DATOUT	/GET # OF DATA PER LINE
0212	1600		TAD I DATOUT	
0213	0301		AND MSK1	
0214	7041		CIA	
0215	3302		DCA DATLN	/DATLN=# OF DATA PER LINE
0216	1600		TAD I DATOUT	/GET BIT 0
0217	7004		RAL	/PUT INTO LINK
0220	7204		CLA RAL	/PUT INTO BIT 11
0221	3303		DCA TRPRT	/=0 IF NO PRINT OF TRIALS
0222	4251	OTHLNE,	JMS CRLF	
0223	1303		TAD TRPRT	
0224	7640		SZA CLA	
0225	2276		ISZ TRNO	
0226	1276		TAD TRNO	
0227	7450		SNA	
0230	5233		JMP .+3	
0231	4705		JMS I IDECPRT	
0232	4262		JMS SPACE	
0233	7300		CLA CLL	/ABOVE PRINTS TRIAL # IF DESIRED
0234	1302		TAD DATLN	
0235	3304		DCA LNCTR	
0236	1677	MORLN,	TAD I DATGET	
0237	4705		JMS I IDECPRT	
0240	4262		JMS SPACE	/PRINT DATA
0241	2277		ISZ DATGET	/GET NEXT DATUM
0242	2304		ISZ LNCTR	/DO ALL OF LINE?
0243	5236		JMP MORLN	/NO, DO MORE
0244	2300		ISZ NOLINE	/YES, DO ALL LINES?
0245	5222		JMP OTHLINE	/NO DO ANOTHER LINE
0246	4251		JMS CRLF	/FINISH WITH CR LF
0247	2200		ISZ DATOUT	/SETUP RETURN ADDRESS
0250	5600		JMP I DATOUT	

Ø251	ØØØØ	CRLF,	Ø
Ø252	73ØØ		CLA CLL
Ø253	126Ø		TAD CR
Ø254	427Ø		JMS TYPE
Ø255	1261		TAD LF
Ø256	427Ø		JMS TYPE
Ø257	5651		JMP I CRLF
Ø26Ø	Ø215	CR,	Ø215
Ø261	Ø212	LF,	Ø212
Ø262	ØØØØ	SPACE,	Ø
Ø263	73ØØ		CLA CLL
Ø264	1267		TAD SPC
Ø265	427Ø		JMS TYPE
Ø266	5662		JMP I SPACE
Ø267	Ø24Ø	SPC,	Ø24Ø
Ø27Ø	ØØØØ	TYPE,	Ø
Ø271	6Ø41		TSF
Ø272	5271		JMP .=1
Ø273	6Ø46		TLS
Ø274	73ØØ		CLA CLL
Ø275	567Ø		JMP I TYPE
Ø276	ØØØØ		TRNO,Ø
Ø277	ØØØØ		DATGET,Ø
Ø3ØØ	ØØØØ		NOLINE,Ø
Ø3Ø1	ØØ17		MSK1,ØØ17
Ø3Ø2	ØØØØ		DATLN,Ø
Ø3Ø3	ØØØØ		TRPRT,Ø
Ø3Ø4	ØØØØ		LNCTR,Ø
Ø3Ø5	Ø275		IDECPT,Ø275

/STARTING LOCATION OF DECPRINT

CR	Ø26Ø
CRLF	Ø251
DATGET	Ø277
DATLN	Ø3Ø2
DATOUT	Ø2ØØ
IDECPR	Ø3Ø5
LF	Ø261
LNCTR	Ø3Ø4
MORLN	Ø236
MSK1	Ø3Ø1
NOLINE	Ø3ØØ
OTHLIN	Ø222
SPACE	Ø262
SPC	Ø267
TRNO	Ø276
TRPRT	Ø3Ø3
TYPE	Ø27Ø

